

WHAT IS CLAIMED IS:

1. A dielectric filter comprising:
a dielectric block having therein resonator holes extending between a first surface of the dielectric block and a second surface opposite to the first surface, the resonator holes being arranged in parallel and having internal conductors formed
5 on internal surfaces of the resonator holes;
external conductors formed on surfaces of the dielectric block, the first surface of the dielectric block being used as an open circuit surface; and
a conductive cover for covering the open circuit surface of the dielectric block,
10 wherein said conductive cover has a bent portion which defines a first part and a second part, said first part being placed in contact with one of the external conductors and said second part being arranged parallel to the open circuit surface, and said conductive cover has at least one inwardly projecting portion at a predetermined position along the bent portion.
2. The dielectric filter according to claim 1, wherein the at least one inwardly projecting portion is shaped so as to be in contact with the open circuit surface of the dielectric block and positioned between two predetermined adjacent resonator holes among the resonator holes.
3. The dielectric filter according to claim 1, wherein the at least one inwardly projecting portion is rectangular in cross-section.
4. The dielectric filter according to claim 1, wherein the at least one inwardly projecting portion is triangular in cross-section.
5. The dielectric filter according to claim 1, wherein the at least one inwardly projecting portion is shaped so as to increase the strength of the bent portion.

6. The dielectric filter according to claim 1, wherein the at least one inwardly projecting portion is positioned between two adjacent resonator holes among the resonator holes and is shaped so as to reduce the coupling between the two adjacent resonator holes.

7. The dielectric filter according to claim 1, wherein the at least one inwardly projecting portion is positioned between two adjacent resonator holes among the resonator holes and is shaped so as to not reduce the coupling between the two adjacent resonator holes.

8. The dielectric filter according to claim 1, wherein the first part and the second part of the bent portion are arranged at an angle of approximately 90° relative to each other.

9. A dielectric duplexer comprising:
a dielectric block;
a transmitting filter comprising a first set of resonator holes extending between a first surface of the dielectric block and a second surface opposite to the first surface, the first set of resonator holes having internal conductors formed on internal surfaces thereof;
a receiving filter comprising a second set of resonator holes extending between the first surface of the dielectric block and the second surface opposite to the first surface, the second set of resonator holes having internal conductors formed on internal surfaces thereof;
external conductors formed on surfaces of the dielectric block, the first surface of the dielectric block being an open circuit surface; and
a conductive cover covering the open circuit surface of the dielectric block,
wherein said conductive cover has a bent portion which defines a first part and a second part, said first part being placed in contact with one of the external conductors and said second part being arranged parallel to the open circuit surface,

and said conductive cover has at least one inwardly projecting portion disposed between the transmitting filter and the receiving filter.

10. The dielectric duplexer according to claim 9, wherein the at least one inwardly projecting portion is shaped so as to be in contact with the open circuit surface of the dielectric block.

11. The dielectric duplexer according to claim 9, wherein the at least one inwardly projecting portion is rectangular in cross-section.

12. The dielectric duplexer according to claim 9, wherein the at least one inwardly projecting portion is triangular in cross-section.

13. The dielectric duplexer according to claim 9, wherein the at least one inwardly projecting portion is shaped so as to increase the strength of the bent portion.

14. The dielectric duplexer according to claim 9, wherein the at least one inwardly projecting portion is shaped so as to reduce the coupling between adjacent resonator holes of the transmitting filter and the receiving filter.

15. The dielectric duplexer according to claim 9, wherein the at least one inwardly projecting portion is shaped so as to not reduce the coupling between adjacent resonator holes of the transmitting filter and the receiving filter.

16. The dielectric duplexer according to claim 9, wherein the first part and the second part of the bent portion are arranged at an angle of approximately 90° relative to each other.

17. A conductive cover for covering an open circuit surface of a dielectric filter, the conductive cover comprising:

a metal plate having a bent portion defining a first part and a second part, the second part being arranged at an angle relative to the first part; and

5 at least one inwardly projecting portion at a predetermined position along the bent portion.

18. The dielectric filter according to claim 17, wherein the at least one inwardly projecting portion is rectangular in cross-section.

19. The dielectric filter according to claim 17, wherein the at least one inwardly projecting portion is triangular in cross-section.

20. The dielectric filter according to claim 17, wherein the angle is approximately 90°.